

FESTIVAL EPIDEMIC ; AN EPIDEMIOLOGICAL STUDY OF PATIENTS ATTENDING EMERGENCY DEPARTMENT ON AN UTTARAYAN FESTIVAL, IN THE INSTITUTE OF TRAUMATOLOGY AND ORTHOPAEDICS, SMS HOSPITAL, JAIPUR.

Orthopaedics

Bhagvan Prasad Meena*

Senior Resident, SMS Medical College, Jaipur *Corresponding Author

Anurag Dhaker

Senior Professor, SMS Medical College, Jaipur

Dheeraj D Shekar

Junior Resident, SMS Medical College, Jaipur

Ravindra Lamoria

Associate Professor, SMS Medical College, Jaipur

R. P. Assat

Senior Professor, SMS Medical College, Jaipur

ABSTRACT

Aim and Objectives : To assess the mode, pattern of injury and burden of traumatic patients in emergency department of level 1 trauma center, on a specific festival. **Materials and Methods :** This was an epidemiological study conducted on an uttarayan festival (12 January to 16 January 2023) with patient attending in emergency department , Institute of traumatology and Orthopedics, Sawai Man Singh Hospital, Jaipur, Rajasthan . Study group consisted of 670 patients . Inclusion criteria: injured patients of all age groups who were directly associated with festival in form of injury by thread of kite (cut by manja) or fall from height while flying kite on festival , attending in emergency department . **Results & Discussion:** 602 (89.85 %) patients were injured by thread of kite (cut by manja) and 68 (10.15 %) patients were injured due to fall from height while flying kite . Ratio of male : female was 2.9:1, study shows male predominance and maximum patients (39.40 %) were injured in 16-30 years age group. Common mode of injury was cut by manja and belong to green category which were treated in emergency minor OT and discharged. 27 (4.02 %) patients belonged to red category, 9 injured by thread of kite and 18 injured due to fall from height . All 27 patients required admission after primary assessment and 7 needed urgent surgery, (4 patient cut by manja and 3 fall from height) , 2 patient survived and 2 expired (within 48 hour) after surgery due to deep neck cut (red category). 11 patients were brought dead . Patients having deep neck cut by thread belong to red and Black category, age of all patients were below the 10 years. Patient with history of fall from height were from all age groups. **Conclusion:** we can decrease the number of cases in festival epidemic by wearing helmet , tie scarf around neck , avoid child sitting in front of bike rider and creating awareness among population regarding such festive epidemics, one can decrease burden of trauma patients landing up in emergency department .

KEYWORDS

Uttarayan festival , Green category , Red category , Black category, Manja(thread).

INTRODUCTION

Now a days trauma is a major public health problem which is preventable in terms of morbidity, premature mortality or disability . Trauma mainly affects young age group patients , leading cause of death in first four decades of life ⁽¹⁾ . World wide approximate 8.4 Million deaths are expected annually ⁽²⁾ . Injury mainly occurs due to Road traffic accident (RTA) , Fall from height (FFH) , assault, occupational injury, gun shot injury, agricultural injury and miscellaneous injuries. Main burden are due to trauma following road traffic accidents. Incidence of RTA is increased in rainy days and summers , also on festivals there is a significant increase in the incidence of trauma.

Patients attending in emergency department on a special festival Uttarayan (Makar Sankranti) also known as kite festival, is not less than an epidemic, in Jaipur, Rajasthan. Mainly patients are injured by thread of kite (Manja) and fall from height during flying kite on this festival. Injury occurs in the forms of cut by manja on neck, chin, lips, nose, cheeks, eye lids or anywhere over face , head injury and other skeletal injury, even death can occur due to fall from height or deep cut by manja on neck while riding bike .

The present study was done on an Uttarayan festival (12 January to 16 January 2023) that included patients attending in emergency department of Sawai Man Singh Hospital Jaipur Rajasthan , who were directly associated with injury due to activities around the festival. The purpose of this study was to assess the mode , pattern of injury and burden of traumatic patients in level 1 trauma emergency department.

MATERIAL AND METHODS

The present study was an epidemiological study, conducted at level 1 trauma center, Sawai Man Singh hospital, Jaipur, Rajasthan on an uttarayan festival (12 January to 16 January 2023) . Study group consisted of 670 patients. Inclusion criteria were, all injured patients who were directly associated with festival and sustained injury by thread of kite (cut by manja) or fall from height while flying kite on festival & subsequently seeking treatment at emergency department. All were informed about the nature and severity of injury and their written consent was obtained. Demographic details like name , age , sex , date , mode and patterns of injury, vitals and outcome were

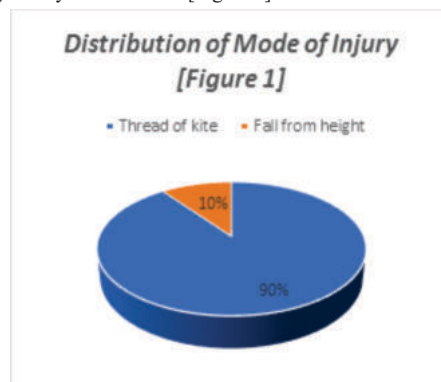
recorded. The data collected in the present study was entered in Microsoft Excel and analysis included calculation of percentages and proportions.

RESULTS AND DISCUSSION

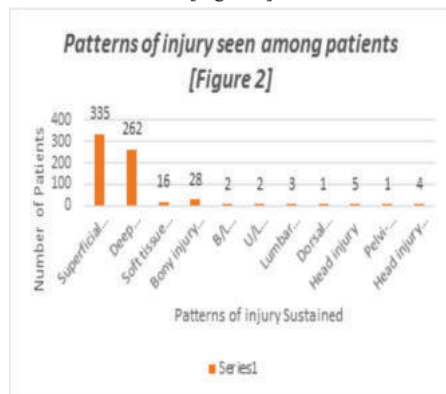
Total 670 patients attending in emergency department , institute of traumatology and orthopaedics SMS Hospital Jaipur on a festival within 5 days period (12 jan. to 16 jan. 2023). 602 (89.85 %) patients were injured by thread of kite (cut by manja) and 68 (10.15 %) patients were injured due to fall from height while flying kite. Male patients were 516 (77.02 %) and female patients were 154 (22.98 %) , ratio of M:F was 2.9 : 1, indicating male predominance in the epidemic [Table 1]

Gender	Number of Patients	Percentage
Male	516	77.02%
Female	154	22.98%
Total	670	100%

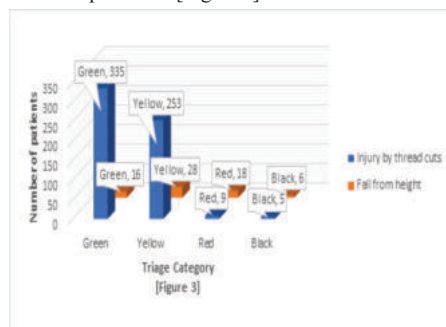
Patients between 0-15 years were 132 (19.70%) , 16-30 years were 264 (39.40%) , 31-45 years were 168 (25.07%) , 46-60 years were 76 (11.34%) , and > 60 years were 30 patients. Majority of patients were injured in 16-30 years age group. Injury by thread of kite was 602 (89.85 %) & fall from height was 68 (10.15 %). Maximum patients were injured by thread of kite. [Figure 1]



With respect to pattern of injury, superficial cut category had (involve epidermis, dermis, and subcutaneous tissue) 335 patients, deep cut category had 262 patients; all these were injured by manja. 16 patients had only soft tissue injury, 28 patients had bony injury, which was managed conservatively with Plaster of paris slab or brace (didn't need admission). 5 patients had head injury, 4 had spine injury, 4 had lower extremity fracture, 1 had pelvis and acetabulum fracture & 4 had head injury with limb involvement. [Figure 2]



Upon assessing the injury, patients were divided categorically according to severity of injury using colour coded triage system in emergency. 351 (52.38 %) patients were under green category of which 335 (55.64 %) patients out of 602 were injured by manja (thread of kite) and 16 (23.52 %) patients out of 68 were injured due to fall from height. Green category patients with superficial cut on neck and face were treated with wound wash and suturing done under aseptic precautions and under local anesthesia in minor operating theater and discharged on oral antibiotics & painkillers immediately . Green category patients with history of fall from height or stairs with no bony injury were treated conservatively in emergency and discharged. 281 (41.94 %) patients belonged to yellow category of which, 253 (42.02 %) patients out of 602 were injured by manja and 28 (41.17 %) patients out of 68 were injured due to fall from height . Yellow category patients having deep cut on neck , chin , eye brows, cheeks but without any gross muscle, tendon, ligament , artery, vein and nerve injury , were also treated in emergency like green category patients , but were kept in observation for 3 hour for any complication but no complications were observed in any patient of yellow category. Patients with history of fall from height under yellow category were managed conservatively (like un-displaced fracture, soft tissue injury , ankle sprain) with slab and discharged. 27(4.02 %) patients belonged to red category of which , 9 were injured by thread of kite and 18 were injured due to fall from height . All 27 patients required admission after primary assessment and 7 needed urgent surgical intervention (4 patient cut by manja and 3 fall from height). 2 patients survived and 2 expired (with in 48 hour) after surgery following deep neck cut under red category. 11 (1.64 %) patients were brought dead (Black category) in emergency , 6 patients with history of fall from height and 5 patients due to deep neck cut [Figure 3].



Patients with deep neck cut by thread belonged to red and black category, age of whom were below 10 years. Patients with history of fall from height were from all age groups.

Present study shows maximum patients about 89.85 % were injured by thread of kite and 10.15 % were injured due to fall from height, all directly being associated with festival. Green (52.38 %) and yellow (41.94 %) category patients did not need admission and were treated in emergency symptomatically and discharged subsequently with

medications .

CASE ILLUSTRATIONS



Figure 4. Depicting Superficial Cut Over Neck.



Figure 5 & 6. Showing Deep Neck Cuts Over Face And Neck With Muscle Tear.

CONCLUSION

Patients attending in emergency department on specific festival like Uttarayan in Jaipur, Rajasthan, is not less than an epidemic, that is seen within 5 days. Injury were mainly by thread of kite and due to fall from height while flying kite. We can decrease the number of cases in festival epidemic by wearing helmet , tying scarf around neck , avoid sitting in front of bike rider and creating awareness about such common festive epidemics can decrease burden of trauma to patients in emergency department.

REFERENCES

- Gotta AW. Trauma: The unrecognized epidemic. Anesthesiol Clin North Am 1996;14:1-2.
- Dalbir Singh, Satinder PS, Kumaran M, et al. Epidemiology of road traffic accident deaths in children in Chandigarh zone of north west India. Egyptian Journal of Forensic Sciences 2015.